

INTERVIEW SUMMARY

Applicants would like to thank Examiner Witezak for the opportunity to have a telephonic interview with her on Tuesday January 19, 2010. Participating in the interview were Robert Day, Esq. of ACIST Medical Injector Systems, Inc., assignee hercof, and Aaron S. Haleva, Esq. of Kramer Levin Naftalis & Frankel LLP, attorneys of record. The Examiner indicated that she had no issues with the pending claims as regards patentability over the cited prior art. However, the Examiner expressed her concern that the methods recited in the claims as currently pending (without the amendments set forth above) can be read as not absolutely referring to a powered injector arrangement. Applicants offered to amend the claims as set forth above, to recite that the injections are effected via a powered angiographic injector arrangement. The Examiner indicated that with this amendment, the claims would be patentable, and this application could pass to issue.

REMARKS

This Amendment, in connection with the following remarks, is submitted as fully responsive to the Final Office Action. Claims 23-40 were pending. By this Amendment, claims 23 and 27 have been amended. No new matter has been added. Claims 23 and 27 are the independent claims. Favorable reconsideration is requested.

I. Agreed Clarifying Amendments

Applicants have amended independent claims 23 and 27 to clarify that a powered injector arrangement is used for the injection and the subsequent injection. This is the amendment agreed to with Examiner Witezak at the telephonic interview of January 19, 2010, as described above in

the Interview Summary. Accordingly, all claims are urged as patentable, and early passage to issue is sincerely requested.

II. Prior Art Rejections

The prior art rejections stated in the Final Office Action are next addressed.

In the Final Office Action, claims 23-31 and 39 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No.3,523,523 to Reich, et al. (“Reich”)¹. Additionally, claims 32-37 stand rejected under 35 U.S.C. §103(a) as unpatentable over Reich in view of U.S. Patent No. 5,672,155 to Riley, et al. (“Riley”). Claims 38 and 40 stand rejected under 35 U.S.C. §103(a) as unpatentable over Reich.

A. 35 U.S.C. Section 102(b) Rejections

The claimed invention is directed to automating the process of a subsequent injection after a first injection has been performed via a powered angiographic injector arrangement. Thus, for example, as recited in claim 23, once a user signals a subsequent injection via said powered angiographic injector arrangement, the claimed method determines a preset volume of fluid necessary for such subsequent injection, compares the volume remaining in the syringe with said preset amount volume of fluid, and – depending on the results of said fluid volume comparison -- either (a) advances a plunger within a chamber of the syringe to perform the subsequent injection, or (b) automatically retracts the plunger to a predetermined position within the chamber of the syringe to draw fluid from a fluid reservoir into the chamber (thus facilitating the subsequent injection).

¹ Although the Final Office Action first refers to this reference as “Hirschman et al.”, it is clear that Reich is intended. Office Action at 2.

The Final Office Action alleges that Reich anticipates claims 23-31 and 39. Applicants respectfully traverse. Reich shows no appreciation for the problem of re-filling a syringe between successive injection operations made via a powered angiographic injector arrangement, and thus neither teaches nor suggests a solution, let alone the methods of the claimed invention. In fact, the text of Reich does not include the words “re-fill” whatsoever.

None of the sections of Reich cited by the Examiner have anything at all to do with the claimed invention. Neither Reich at 1:45-50, 2:41-47, or 6:29-34 teach or suggest comparing the volume remaining in the syringe after a first injection via a powered angiographic injector arrangement with a preset amount volume of fluid, and – depending on the results of said fluid volume comparison -- either (a) advancing a plunger within a chamber of the syringe to perform a subsequent injection via said powered angiographic injector arrangement, or (b) automatically retracting the plunger to a predetermined position within the chamber of the syringe to draw fluid from a fluid reservoir into the chamber (thus facilitating the subsequent injection).

Moreover, Applicants distinguish an initial fill operation from an automatic refill operation between injections. For example, ¶¶ [0062] - [0064] of the present Specification describe a contrast fill operation performed during an initial setup of the system. In contrast, ¶ [0168] describes, *inter alia*, an exemplary embodiment of the invention in which the system can automatically refill the syringe, such as, for example, “when the volume of contrast material remaining in the syringe [following an injection]” is less than the “injection volume preset by the operator [for a subsequent injection].”

The potential benefits or advantages of the method of Claims 23 and 27 include those time saving and minimization of the amount of contrast media that would otherwise be wasted benefits that the automated methods of the claimed invention can provide. For example, as

described in ¶ [0063] of the Specification, in the contrast fill operation performed during initial setup, the plunger “is initially driven to its furthest forward position.” In contrast, however, in the automatic refill operation described in ¶ [0168], automatic retraction of the plunger to refill the syringe [when the appropriate conditions are met] occurs, thereby saving time and minimizing the amount of wasted contrast material.

Thus, claims 23 and 27 are submitted as patentably distinguished over Reich. Dependent claims 24-26, 28-31, and 39 are asserted as patentable for similar reasons.

B. 35 U.S.C. Section 103(a) Rejections

Riley, cited for using an initially slower rate of retraction of the plunger followed by a more rapid one, cannot cure the defects of Reich as a reference against the pending claims. Riley does not teach or suggest determining a preset volume of fluid necessary for a subsequent injection, comparing the volume remaining in the syringe with said preset amount volume of fluid, and – depending on the results of said fluid volume comparison -- either (a) advancing a plunger within a chamber of the syringe to perform the subsequent injection, or (b) automatically retracting the plunger to a predetermined position within the chamber of the syringe to draw fluid from a fluid reservoir into the chamber (thus facilitating the subsequent injection).

Thus, for similar reasons as argued above, dependent claims 23-31 and 39, as well as dependent claims 38-40 are submitted as patentable over Riley and Reich, whether taken alone or in combination.

Moreover, the Final Office Action states that “Applicant has not disclosed that [varying the rates of retraction of the plunger] provide an advantage, is used for a particular purpose, or solves a stated problem.” Office Action at 3. The Final Office Action makes a similar assertion

regarding having the syringe angled upward at about 10 to 20 degrees. Applicants respectfully traverse these assertions as well.

Quite to the contrary to these assertions, the Specification explicitly discloses “that by using multiple speeds for retracting of plunger 412 during syringe refill, an air forming bubble within syringe 411 can be reduced more readily.” *Specification*, at ¶ [0169]. Similarly, this same ¶ [0169] also provides support for claims 38 and 40 (reciting that the syringe is “angled upward at about 10 to 20 degrees”), inasmuch as the angle of the syringe “facilitates release or movement of an air bubble.” Thus, the features of varying the rate of retraction of the plunger and angling the syringe upward at the claimed angles each respectively provide additional patentable distinctions over the cited prior art.

CONCLUSION

In light of the present amendments, Applicants respectfully submit that all pending claims are in condition for allowance.

No additional fees are believed due with the filing of this Interview Summary and Amendment After Final Rejection Under 37 C.F.R. § 1.116. However, if any such fee is due, the Director is hereby authorized to charge any such fees or credit any overpayments to Deposit Account No. 50-0540.

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Respectfully submitted,

/Aaron S. Haleva/

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